

ABSTRACT  
COMMUNICATION SYSTEM FOR DOWN HOLE USE

5 A communication system for down hole use and comprising a  
drill collar (101) comprising a first portion (103) and a  
second portion (105) separated from each other by an  
electrically insulating material (67) and means (22, 63, 77,  
81) for generating an electrical signal and for applying the  
10 electrical signal to the drill collar (101) such that the  
electrical signal is transmitted into a geological formation  
being drilled, characterised in that the means for generating  
the electrical signal comprises an alternator (22, 63, 77,  
81) and means (2, 4, 10) responsive to an electrical output  
15 of the alternator for regulating rotation of the alternator.